

Extramammary paget's disease of the axilla

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Introduction

Paget's disease was first identified and classified by Sir James Paget in 1874 as mammary and extramammary type [1]. The mammary type (MPD) is often (90%) linked to underlying breast carcinoma [1,2]. Extramammary Paget's disease (EMPD) is described in areas consisting of apocrine glands such as the perineal region, scrotum, penis and axillae. It originated from skin or skin appendages, histologically as adenocarcinoma and is rarely linked with cancers originating from other areas such as the vulva, cervix, bladder, ovary, and breast. [3]. It is an erythematous plaque with well-defined edges, scaling and excoriations [3]. Pruritus is the most common symptom in about 70% of cases [4]. Proper histopathological diagnosis is made by skin biopsy of the lesion [4,5]. Surgical resection is the definitive management for EMPD. However, recurrence may be frequent. EMPD arising from a primary intra-epidermal neoplasm of the epidermis is called 'Primary EMPD', whereas it spreads from an underlying malignancy and is called 'Secondary EMPD' [4,5]. MPD was caused by the epidermotropic spread of the underlying tumour cells, while primary type EMPD seemed to rise from intraepithelial cells of sweat gland origin [4,5]. The IHC panel is also critical to determine whether it is a primary or secondary disease of EMPD. The IHC marker GCDPF-15 (or BRST2) is expressed in 50% of cases of primary EMPD, and it is negative in secondary types [3,4].

Case Presentation

An 81-year-old female presented to the surgical clinic with a painful right-sided pruritic rash and axillary erosion for nine months. She has been diagnosed with hypertension and dyslipidaemia for 30 years and had a transient ischemic attack 18 years ago. She had only a second-degree relative with breast cancer. On examination, her WHO performance status was zero, and there was an axillary rash measuring 5.4cm -

6.8cm (Fig.1). There were no palpable breast lumps; however, there were palpable right axillary lymph nodes. A bilateral breast mammogram only showed right axillary lymph nodes without identifiable abnormality and no structural lesions in either breast. Ultrasound scan of bilateral breasts and axilla reported only skin thickening of the right axilla and enlarged, reactive right axillary lymph nodes. The histology of the skin biopsy taken from the axilla was compatible with Paget's disease. After the MDT discussion, she underwent wide local excision of the axillary skin with a clinical 2cm margin and level II axillary clearance. The defect of the axilla was reconstructed with a random local rotational fasciocutaneous flap mobilized from the posterolateral chest wall (Fig.1).



Figure 1. Axillary lesion with preoperative markings for the excision and local rotational flap

The resected specimen measured 9.4cm-9.1cm. The histopathology of the specimen confirmed as Extra-Mammary Paget's disease (EMPD) of the axilla with no evidence of dermal, intravascular or perineural invasion. All surgical margins from the lesion were more than 5mm, and no tumour deposits were identified in the lymph nodes from level II axillary clearance. She recovered completely from the surgery by three weeks after the surgery. Her only postoperative complication was a small (2cm) wound dehiscence (Fig 2), which recovered in 3 weeks. The MDT decision was for active surveillance with clinical assessment,

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USS abdomen pelvis and chest X-rays with annual bilateral breast mammograms. Currently, she can manage her daily activities at home.

Discussion

EMPD is a rare disease seen among postmenopausal Caucasian women between the ages of 50 and 80, with a peak age of 65. Although uncommon, hereditary cases have been reported [4].

It is essential to investigate to exclude the presence of any occult-primary malignancy before any therapeutic measure is taken [2]. Surgical excision, with adequate resection margins, has proven to be the best treatment option [3,4]. However, local chemotherapy, immunomodulator creams, photodynamic therapy and CO2 laser are known to treat this condition with variable outcomes [4]. Perioperative tumour mapping with fluorescein could minimize the excess tissue excision and better long-term disease-free survival compared with clinical-wide local excision [4]. Wide excision with an adequate margin of (1.5-3 cm) is the recommended method in the absence of fluorescein. The optimal surgical margin in each case is different and challenging to establish due to the irregular shape of the EMPD margins. Mohs Micrographic Surgery (MMS), or frozen intra-operative biopsy, is also performed to determine the surgical excision margins [5]. This patient underwent wide local excision of more than 2cm clinical margin, and histology has confirmed the margins were adequate.

Patients with aggressive, invasive primary and specifically secondary EMPD need to be treated with surgery followed by adjuvant chemotherapy and radiotherapy. Those with non-invasive primary EMPD can be treated conservatively, sustaining maximum tissue and function without a high recurrence risk [4].

Fluorescein visualization and mapping showed high sensitivity and specificity for EMPD cells, leading to successful excision of neoplastic tissue [4]. Other treatment options are multimodal Photodynamic Therapy (PDT), Mohs Micrographic Surgery (MMS), Imiquimod cream at 5% concentration, 5% 5-fluorouracil cream, CO2 laser, systemic chemotherapy, radiotherapy, and the combination of two or more therapeutic approaches may also be used for better results [4,5].

Mammary Paget's disease expresses the immunomarkers CK7, MUC1 and CK8/18 in addition to the routine immunohistochemistry of the underlying breast carcinoma [4]. The immunomarker GCDFP-15 is observed in 50% of primary EMPG in addition to CK7 and is not seen in the secondary type of EMPD [4,5]. However, targeted therapy with antibodies against HER1, HER3 or HER4 was unlikely to prove any clinical value [4,5]. Since the H&E staining was diagnostic, screening investigations had not shown any other malignancy in this patient, and IHC has no added benefit. Immunomarker studies were not done on this patient.

Conclusion

Adequate surgical resection margin is the key to success in treating primary, localized EMPG. Fluorescein visualization mapping and Mohs micrographic surgery are valuable tools to ensure negative margins with minimal tissue distraction. Lifelong follow-up is vital to detect any local recurrences and to identify any metastatic disease even though the primary site tumour has completely responded to the primary treatment.



Figure 2. Post operative day 10 showing the wound gapping at the apex of the flap.

Reference

1. Yim JH, Wick MR, Philpott GW, Norton JA, Doherty GM. Underlying pathology in mammary Paget's disease. *Ann Surg Oncol.* 1997; DOI: 10.1007/BF02303576
2. Kothari AS, Beechey-Newman N, Hamed H, Fentiman IS, D'Arrigo C, Hanby AM, et al. Paget disease of the nipple: A multifocal manifestation of higher-risk disease. *Cancer.* 2002;95(1):1–7. DOI: 10.1002/cncr.10638
3. Journal I, March G, Paget IE, Empd I, Medline M, Paget V, et al. Extramammary Paget's disease. 2005;112(March):273–9. DOI: 10.1111/j.1471-0528.2004.00438.x
4. Lopes Filho LL, Lopes IMRS, Lopes LRS, Enokihara MMSS, Michalany AO, Matsunaga N. Mammary and extramammary Paget's disease. *An. Bras. Dermatol.* 2015;90(2):219–31. PMC4371672 DOI: 10.1590/abd1806-4841.20153189
5. Kim BJ, Park SK, Chang H. The effectiveness of mapping biopsy in patients with extramammary Paget's disease. *Arch Plast Surg.* 2014;41(6):753–8. PMCID: PMC4228221 DOI: 10.5999/aps.2014.41.6.753

Learning Points:

- Extramammary Paget's Disease is a condition of the elderly.
- High degree of suspicion and biopsy will lead to diagnosis.
- Need to search for an underlying malignancy.
- Surgical resection is the treatment.